



**VistAWeb**

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**CPRS Access and Server Installation  
Guide**

***Version 5.0  
(Patch WEBV\*1\*7)***

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Department of Veterans Affairs  
VistA Health Systems Design & Development,  
Health Data Systems, Current Systems



## Revision History

Date	Patch	Page(s)	Change(s)	Project Manager	Technical Writer
7/11/2006	WEBV*1*7 VistAWeb V5	1, 3  8  12	Added description of additional method of using VistAWeb from Remote Data Available button in CPRS.  Removed references to the VistAWebDocs application, which is no longer included in the EMR.zip file. Added two new scripts to Appendix A.	S. Madsen	M. Kelsey
4/6/06	WEBV*1*6	None	For software release 4.5.1, minor software changes were made to facilitate the processing and display of data.	S. Madsen	R. Merrill
3/20/06	WEBV*1*5	2, 9	Supplemental information on pop-ups was added and the VistAWeb contact information was changed to the National Help Desk. The <i>Managing Future Updates</i> section was removed— a new process for updates following EVS standard operating procedures is being instituted.	S. Madsen	M. Kelsey
9/28/05	WEBV*1*4	Multiple	Accepted previous changes and made minor edits.	G. Smith	J. Green
8/22/05	WEBV*1*4	2, 4	Added new guidance on test accounts and set up instructions for pre-release testing.	G. Smith	M. Kelsey
5/16/05	n/a	Multiple	Changed Title and other wording to indicate that CPRS access to VistAWeb is done through a URL link rather than local installation. Removed reference to Special Users DB and Requests DB.	G. Smith	M. Kelsey
5/4/05	n/a	All	Added <i>Known Constraints</i> , replaced URL references, and made minor edits and	G. Smith	M. Kelsey

			format changes.		
2/23/05	n/a	All	Revised flow		
2/18/05	n/a	5	Fixed date, removed URL (VISN CIO will provide URL)		
2/10/05	n/a	1, 9	Removed URL referenced on Page 1; Removed reference to Special User scripts on page 9		
1/31/05	Informational Patch number OR*3*230	All	Initial Installation Guide for use with beta test version		

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# VistAWeb

## Introduction

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Veterans Health Information Systems and Technology Architecture (VistA) VistAWeb is an intranet web application used to review remote patient information found in VistA. VistAWeb mirrors the behavior of the Computerized Patient Record System (CPRS) and Remote Data View (RDV). However, by permitting a more robust and timely retrieval of remote-site patient data, VistAWeb is also an enhancement to CPRS/RDV.

There are three ways to use VistAWeb. VistAWeb may be made available from the Tools Menu within CPRS, and it can be selected as the default method of retrieving data from the Remote Data Available button in CPRS. The CPRS-spawned versions of VistAWeb are compliant with the Health Level 7 (HL7) Clinical Context Object Workgroup (CCOW) standards and therefore maintain context with the patient selected in CPRS. As a third option, VistAWeb can be accessed in a standalone mode by entering the uniform resource locator (URL) link (<https://vistaweb.med.va.gov/>) in the Internet Explorer address bar.

The standalone version of VistAWeb is connected to neither CPRS nor the clinical context management application. Standalone VistAWeb serves an important function for users who have been granted special access to multiple sites, such as for National Programs, VA researchers, and others. VistAWeb was also made available more broadly, though temporarily, to assist clinical staff with the retrieval of patient information from the sites affected by damage caused by hurricane Katrina.

Refer to the VistAWeb User Manual for a detailed description on access and use of VistAWeb from CPRS and as a standalone application process.

## Assumptions

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This installation guide is intended for system administrators (specifically, web administrators) who are assumed to possess the technical knowledge of how to configure and interact with application servers. This document also assumes the necessary security hardening guidelines have already been implemented. (Refer to the Office of Cyber and Information Security link below for information pertaining to security requirements.)

[https://vaww.ocis.va.gov/portal/server.pt?in\\_hi\\_opt\\_comm\\_community=257&in\\_hi\\_space=SearchResult&in\\_hi\\_control=bannerstart&in\\_hi\\_userid=2&in\\_se\\_sel\\_1=everything&in\\_tx\\_query=hardening+guidelines](https://vaww.ocis.va.gov/portal/server.pt?in_hi_opt_comm_community=257&in_hi_space=SearchResult&in_hi_control=bannerstart&in_hi_userid=2&in_se_sel_1=everything&in_tx_query=hardening+guidelines)

VistAWeb is not installed at each local site; it is installed on an application server. A link to the application may be incorporated into the existing CPRS Tools Menu at the local site. The instructions provided in this guide identify the required configuration settings for VistAWeb use from the CPRS Tools Menu. Additional reference material may be viewed in the CPRS GUI Technical Manual by selecting the following link:

[http://www.va.gov/vdl/VistA\\_Lib/Clinical/Comp\\_Patient\\_Reprd\\_Sys\\_\(CPRS\)/CPRSQUITM.pdf](http://www.va.gov/vdl/VistA_Lib/Clinical/Comp_Patient_Reprd_Sys_(CPRS)/CPRSQUITM.pdf)

## Known Constraints

---

There are known constraints in the installation and use of VistAWeb:

1. VistAWeb is a CCOW-compliant application. If VistAWeb is launched from CPRS on a PC without the CCOW-compliant Vergence Desktop Components installed, a message will be displayed saying “VistAWeb is CCOW compliant and has been unsuccessful in locating a CCOW vault. Please contact your local IRM for assistance.” VistAWeb will then exit.

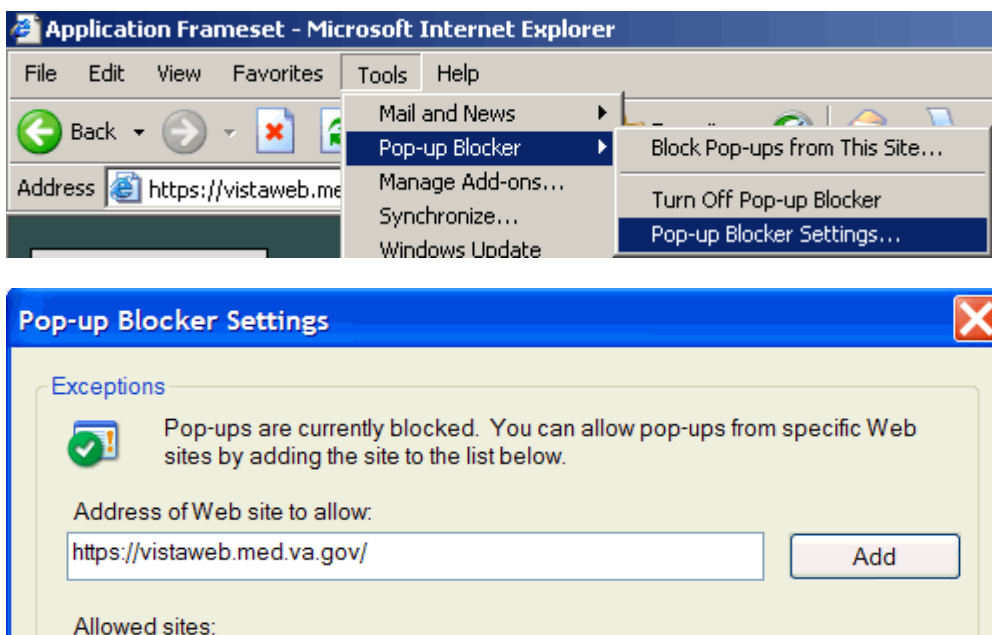
*Note: IRM staff may refer to the VistAWeb Informational Patch OR\*3\*230 for guidance on where to find information and who to talk to about installation and configuration of the CCOW Desktop Components.*

2. Access to VistAWeb in a test account should **not** be made available to general users. Access **should** be made available in a production account. Logging in to VistAWeb in test accounts will require the user to enter the IP address and port number of the test system. Access to VistAWeb in a test account should be restricted to IRM staff for limited testing purposes only.

*Note: Using VistAWeb to look up **test patients** may produce confusing results. No two sites ever have the same test patients. Using a test patient in a production account may seem to work okay, but can cause VistAWeb to error out as it attempts to reconcile a test patient at multiple sites.*

3. VistAWeb uses pop-ups. Field facilities that have chosen to turn off pop-ups on desktops will need to allow them for VistAWeb. In *Internet Explorer* in the *Tools* menu pull-down, select *Pop-up Blocker*>*Pop-up Blocker Settings*, type the VistAWeb URL in the “Address of Web site to allow:” box, and click the “Add” button ([Figure 1](#)).

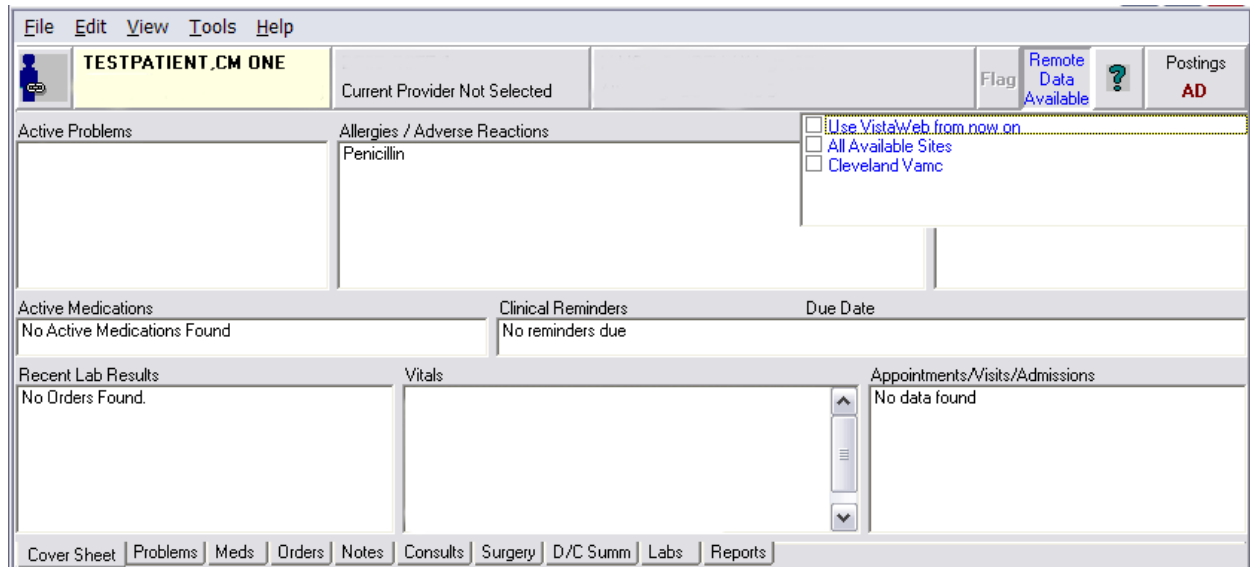
**Figure 1: Setting Internet Explorer to Allow Pop-ups**





## Access to VistAWeb from CPRS Remote Data Available Button

If **Use VistaWeb from now on** is set, CPRS will launch VistAWeb for you. Additionally, when VistaWeb is launched by CPRS patient context is maintained. This means that VistAWeb will change patients whenever you do a patient selection in CPRS.



To return to the use of classic Remote Data Views, select Options from the CPRS Tools menu. Go to the Reports tab and select the RDV (Classic) radio button.

## Providing Access to VistAWeb from the Tools Menu

A site may use the Tools Menu to give users access to other client software from within CPRS. The parameter, ORWT TOOLS MENU, is used to set up the list of software that appears on the menu. This parameter may be set up for the site, then overridden as appropriate at the division, service, and user levels.

Each item entered on the Tools Menu should have the form:

NAME=COMMAND

NAME represents what the user will see on the menu for that line item. An ampersand "&" may also be used in front of a letter to allow keyboard access to the menu item.

COMMAND may be an entry that is executable by Windows. It may be any file that has a Windows file association.

*For example:*

Name=Command: **&CPRSInfo=http://vista.med.va.gov/cprs/index.html**

*For VistAWeb:*

Name=Command:

**VistaWeb="https://vistaweb.med.va.gov/toolspage.aspx?q9gtw0=<StationID>&xqi4z=%DFN&yicf=%DUZ"**, where the < > symbols are removed and "StationID" is replaced by the user's actual

station ID. (A listing of station IDs can be found on the Facilities Locator & Leadership Directory page at [http://vaww1.va.gov/directory/guide/rpt\\_fac\\_list.cfm](http://vaww1.va.gov/directory/guide/rpt_fac_list.cfm).)

In [Figure 2](#) below (extracted from Page 21 of the CPRS GUI Technical Manual), note that **CPRSInfo** did not require an executable file to be identified. Since Windows understands hypertext transfer protocol (HTTP), it will launch the workstation's default browser and navigate to the address. Also note the quotation marks in the VistA Terminal (VT) example. A path that contains space characters (like C:\Program Files\...) must be surrounded by quotation marks. Entries on the command line may also contain parameters. In the example below, LOCALVAMC is the name of a KEA! session, which is passed as a command line parameter.

### Figure 2: Tools Menu Example Configuration

```
Select General Parameter Tools Option:  ep  Edit Parameter Values
                                         --- Edit Parameter Values ---
Select PARAMETER DEFINITION NAME:  orwt TOOLS MENU    CPRS GUI Tools
MenuORWT TOOLS MENU may be set for the following:
    1  User          USR      [choose from NEW PERSON]
    2  Location      LOC      [choose from HOSPITAL LOCATION]
    2.5 Service      SRV      [choose from SERVICE/SECTION]
    3  Division      DIV      [REGION 5]
    4  System        SYS      [OEC.ISC-SLC.VA.GOV]
Enter selection: 1  User      NEW PERSON
Select NEW PERSON NAME:  CPRSPROVIDER,TEN            TC

----- Setting ORWT TOOLS MENU for User: CPRSPROVIDER,TEN -----
Select Sequence: 1
Are you adding 1 as a new Sequence? Yes//    YES
Sequence: 1//    1
Name=Command:  &Notepad=Notepad.exe
Select Sequence: 2
Are you adding 2 as a new Sequence? Yes//    YES
Sequence: 2//    2
Name=Command:  &CPRSInfo=http://vista.med.va.gov/cprs/index.html
Select Sequence: 3
Are you adding 3 as a new Sequence? Yes//    YES
Sequence: 3//    3
Name=Command:  &VistA="C:\Program Files\Attachmate\KEA! VT\keavt.exe" LOCALVAMC
Select Sequence:
```

It is also possible to pass context-sensitive parameters. These are parameters that are entered as placeholders and then converted to the appropriate values at runtime. These placeholder parameters are:

%SRV	= Server name for the current broker connection
%PORT	= Port number for the current broker connection
%MREF	= M code giving the global reference where the patient DFN is stored
%DFN	= The actual DFN of the currently selected patient
%DUZ	= Internal entry number of the current user

So, if you have another application that needs to know, for example, the identity of the current user and currently selected patient, you could list %DUZ and %DFN as parameters in the command that executes that program.

## VistAWeb Setup Instructions for Pre-release Testing

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Set the parameter ORWT TOOLS MENU to

VistAWeb=<https://vhaiswwebv7.vha.med.va.gov/SQA/ToolsPage.aspx?q9gtw0=657&xqi4z=%DFN&yiicf=%DUZ>

Install CCOW if it is not already installed – see step #18 below.

Detailed Instructions:

1. Sign on to VistA
2. Type “prog” for the Programmer Options menu and press the Enter key
3. Type “PG” for Programmer Mode and press the Enter key.
4. Change to Programmer Mode by typing D ^XUP.
5. At the “Select Option Name” prompt, type “XPAR MENU TOOLS General Parameter Tools”.
6. At the “Select General Parameter Tools Option:” prompt, type “EP” for Edit Parameter Values option and press the Enter key.
7. At the “Select PARAMETER DEFINITION NAME:” prompt, type “ORWT TOOLS MENU CPRS GUI Tools Menu” and press the Enter key.
8. At the “Enter selection:” prompt type “1” for User NEW PERSON.
9. At the “Select NEW PERSON NAME:” prompt, type your last name, and first name.
10. Your user name will display. Example: VWUSER,TWO BAY PINES TEST LAB 55 409 BAY PINES TEST LAB)
11. -----Setting ORWT TOOLS MENU for User: XXXXXXXXX, XXX (User Name)----- displays.
12. At the “Select Sequence:” prompt, type 1 and press the Enter key.
13. At the “Are you adding 1 as a new Sequence? Yes//” prompt, press the Enter key to accept the default.
14. At the “Sequence: 1//” prompt, press the Enter key to accept the default.

*NOTE: Ensure that your terminal settings are set to “wrap” to accommodate the entry of this URL. Steps: Options > Display > VT Advanced tab > click on Auto wrap lines.*

15. At the “Name=Command:” prompt, type the following:  
[VistAWeb=https://vhaiswwebv7.vha.med.va.gov/SQA/ToolsPage.aspx?q9gtw0=657&xqi4z=%DFN&yiicf=%DUZ](https://vhaiswwebv7.vha.med.va.gov/SQA/ToolsPage.aspx?q9gtw0=657&xqi4z=%DFN&yiicf=%DUZ)  
(Note: 657 is the station number for STLSQA, Replace 657 with 992 for CHYSQA and 613 for MARTSQA).
16. Repeat step 14 to display and verify that the URL was typed correctly. Note: To replace the entire URL type “@” at the “Replace” prompt and the entire line will be deleted or you may replace a section of the URL as appropriate.)
17. Press the Enter key through all remaining prompts to exit VistA programming mode.
18. If CCOW is not installed, install CCOW. CCOW is found on [\\Vhaisltreeng3\devinstalls\Sentillion](http://Vhaisltreeng3\devinstalls\Sentillion). Run the set-up and enter 10.5.21.25 (IP Address for the Vault in SLC – Bay Pines is 10.4.229.124) - the CCOW vault IP - when prompted.
19. Ensure that the correct version of CPRS is installed on your PC for access to the SQA environments.

20. To verify the above set-up worked, log on to CPRS and select a patient with RDV history. Select Tools from the Menu. VistAWeb will be a selectable item on the drop down list.
21. Enter the IP Address and Port of the Site you are connecting to when prompted. (Example: For STLSQA 10.4.229.27 and 9476 – This is displayed in CPRS when you first sign on).

*NOTE: If an error is received in VistAWeb (i.e., Error getting remote sites: Object reference not set to an instance of an object.), look for the “Black Ice” program in the task bar in the lower right corner of your PC. Right click and select “Stop Firewall and IDS Service.” This should allow VistAWeb to display the remote patient data.*

## **VistAWeb Installation on a Sole Application Server/Database Server**

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The remainder of the installation guide describes the one-time installation of the VistAWeb application on a sole application server cluster and the one-time installation of the SQL server database on a database server cluster. It is divided into the following four sections:

1. System Requirements
  - Hardware
    - Components that apply to both web and database servers
    - Web server components
    - Database server components
  - Software
    - Application configurations and settings
2. Installation Instructions—instructions both for the web application server and SQL server database.
3. Appendix A: Database Schema—database specifications (written for SQL Server 2000)

## **System Requirements**

### **Hardware**

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The servers that run VistAWeb are configured in Silver Spring, Maryland. The basic components for the web servers and the database servers are listed below.

#### **Components that Apply to both Web and Database Servers**

- Dell PowerEdge 4210 Rack with KVM (16-port switch)
- Two SAN adapter cards, and Emulex FC HBA with Power Path licenses

#### **Web Server Components**

- Two Dell PowerEdge 6650s
- Dual-CPU 2.2 GHz processors
- 8 GB RAM
- Five 36-GB SCSI hard drives
- Dual network interface cards

### **Database Server Components**

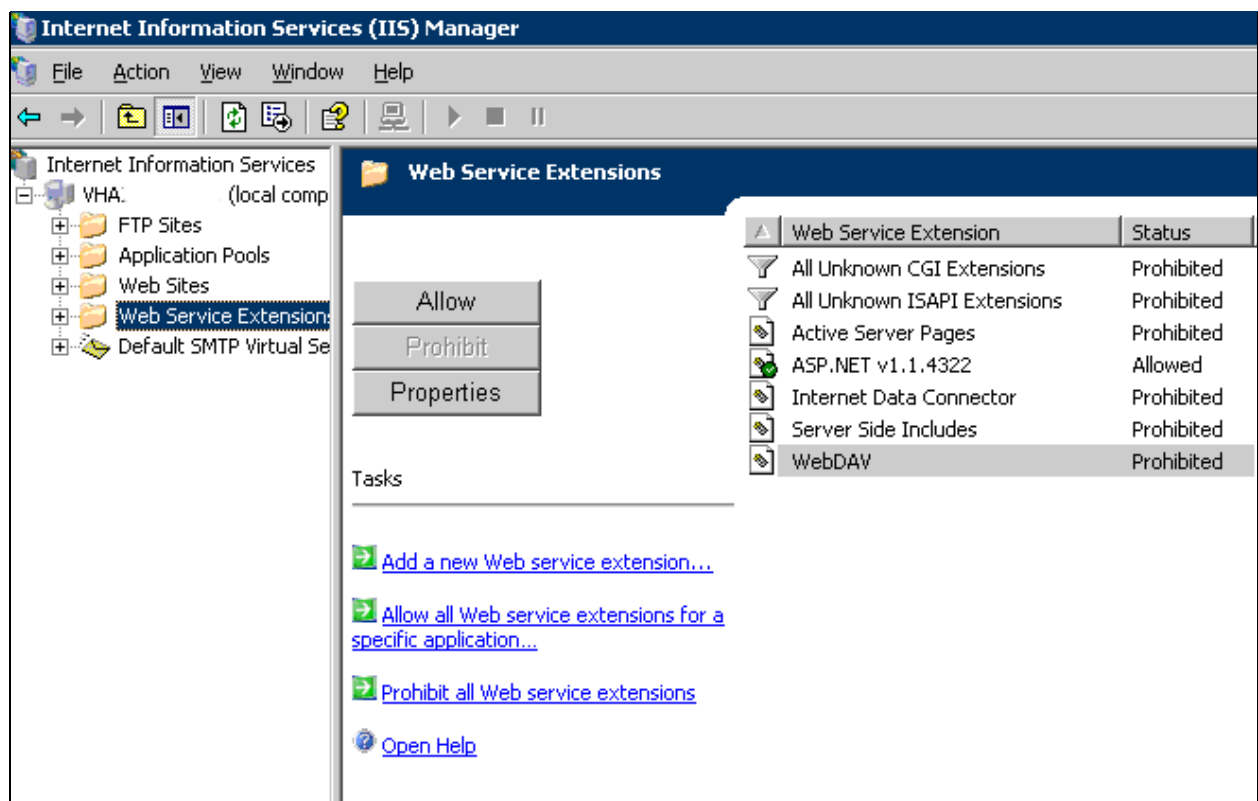
- Two Dell PowerEdge 6650s
- Quad-CPU 2.2 GHz processors
- 8 GB RAM
- Five 36-GB SCSI hard drives
- Dual network interface cards

### **Software**

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- Windows Server 2003 Enterprise, configured with the role of Application Server
- Internet Information Services (IIS) 6.0 (installed by default as part of the Application Server role)
- Microsoft Visual J#.NET 2003 runtime component
- .NET Framework 1.1 (part of the Windows Server 2003 operating system default installation)
- FTP services and an FTP folder (to be used as a staging location for updates to VistAWeb)
- SMTP Virtual Server
- .NET Framework 1.1 is installed by default on Windows 2003 systems. Service packs and updates to all three components are available through Microsoft Windows update (<http://windowsupdate.microsoft.com>).
- Web Extension Services set to allow ASP.NET extensions (see [Figure 3](#))
- SQL Server 2000 (The database does not need to run on the same server as the web application.)

**Figure 3: Web Service Extension Settings**



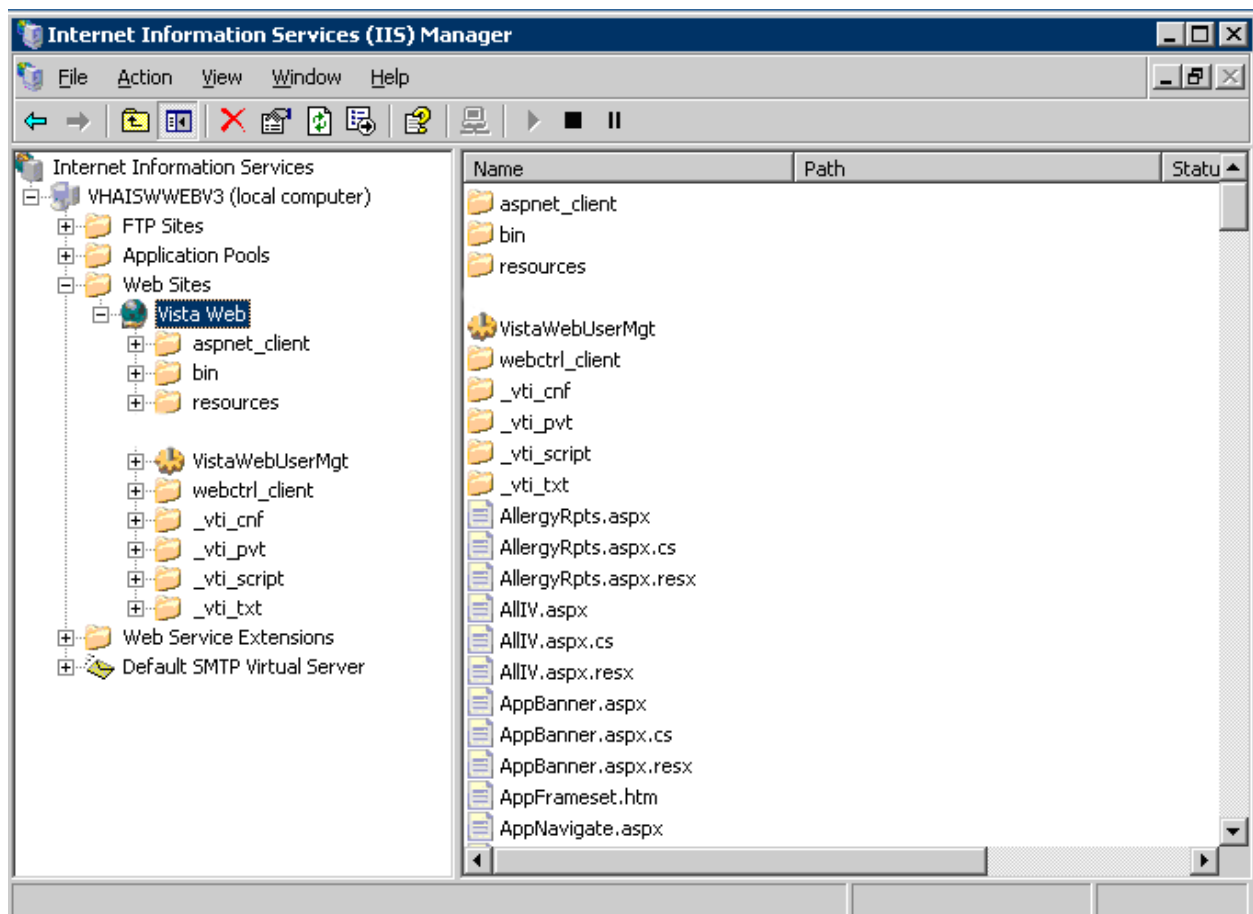
## Server Installation

The installation instructions are divided into two sections—the web application and the SQL server database schema. Note that for production purposes, the installation of both the web application and the SQL server database need only be performed once.

### Web Application Instructions

Note that there is one other application that will run alongside VistAWeb: VistAWebUserMgt, depicted in [Figure 4](#). VistAWebUserMgt is a web application that allows select users to control VistAWeb user access to patients at VA sites other than a user's local site. An updated version of VistAWebUserMgt is provided in a separate zip file and can be installed using steps 1-5 below.

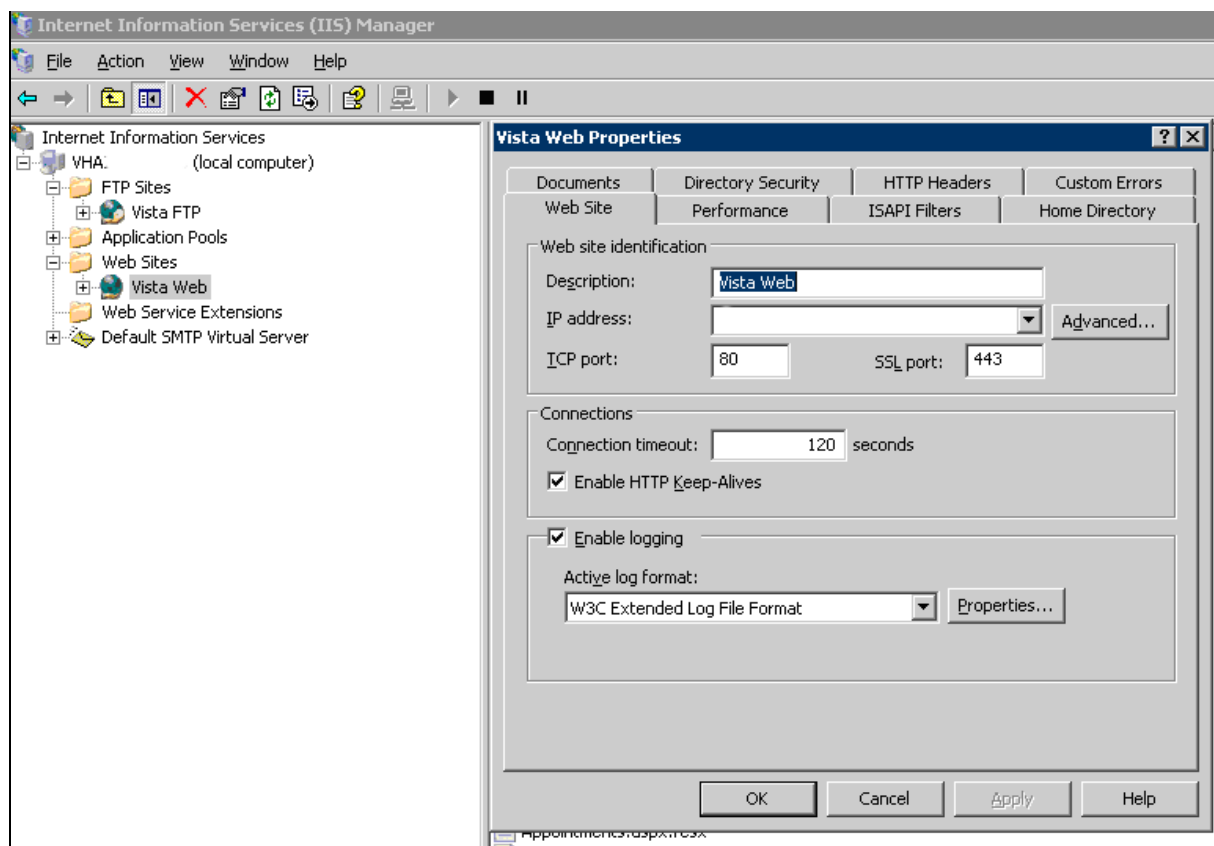
**Figure 4: VistAWeb Website and Accompanying Web Application**



1. Extract the EMR.zip file to the desired location for EMR; note that the extraction will automatically create a root folder called EMR.
2. Configure the EMR folder to run either as its own website or as a virtual directory under the default website; the former allows the application to run as its own website, while the latter allows the application to operate as one of a collection of web applications under another dominant website.
3. For production purposes, a domain address was established for VistAWeb (<https://vistaweb.med.va.gov/>), with VistAWeb configured as its own website.
4. Set the default content page to "loginframeset.htm."
5. Configure VistAWebUserMgt as a web application under the VistAWeb website; the virtual directory is VistAWebUserMgt.

Figure 5 depicts the image of some of the settings made to the application server.

**Figure 5: Application Server General Settings**



## SQL Server Database Schema Instructions

A database schema is required for maintaining the VistAWeb log files and identity of sites from which a user can perform patient lookups. Appendix A contains the database specifications (written for SQL Server 2000). For security purposes, the user account and password that is needed by the VistAWeb application will not be included in this document.

1. Create a database called EMR.
2. Run the scripts in Appendix A.
3. Add the user account used by VistAWeb (contact the National Help Desk for information regarding the account/password at 1-888-596-4357 or by e-mail at [vhacionhd@med.va.gov](mailto:vhacionhd@med.va.gov).)
4. Grant the provided user account “dbowner” rights to the EMR database.



## Appendix A: Database Schema

- Database Name: EMR
- Database Tables:
  - Log
  - CprsUsers
  - SpecialUsers
  - Requests
- Views:
  - LogDesc

### Log Creation Script

---

```
CREATE TABLE [Log] (  
    [id] [numeric](19, 0) IDENTITY (1, 1) NOT NULL ,  
    [requestDate] [datetime] NULL ,  
    [remoteAddr] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,  
    [userId] [numeric](19, 0) NULL ,  
    [userName] [varchar] (100) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,  
    [userSitecode] [varchar] (6) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,  
    [userSitename] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS  
    NULL ,  
    [requestPage] [varchar] (100) COLLATE SQL_Latin1_General_CP1_CI_AS    NULL  
    ,  
    [requestSitecode] [varchar] (6) COLLATE SQL_Latin1_General_CP1_CI_AS    NULL  
    ,  
    [requestSitename] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS    NULL  
    ,  
    [patientID] [numeric](19, 0) NULL ,  
    [patientName] [varchar] (100) COLLATE SQL_Latin1_General_CP1_CI_AS    NULL  
    ,  
    [patientSensitivity] [tinyint] NULL ,  
    [message] [varchar] (1000) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,  
    CONSTRAINT [PK_Log] PRIMARY KEY CLUSTERED  
    (  
        [id]  
    ) ON [PRIMARY]  
) ON [PRIMARY]  
GO
```

### CprsUsers Creation Script

---

```
CREATE TABLE [CprsUsers] (  
    [UserID] [numeric](19, 0) NOT NULL ,  
    [Sitecode] [varchar] (3) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,  
    [DUZ] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
```

```

        [SSN] [varchar] (9) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
        [Name] [varchar] (100) COLLATE SQL_Latin1_General_CP1_CI_AS NULL
    ) ON [PRIMARY]
GO

```

## SpecialUsers Creation Script

---

```

if exists (select * from dbo.sysobjects where id = object_id(N'[dbo].[SpecialUsers]') and
OBJECTPROPERTY(id, N'IsUserTable') = 1)
drop table [dbo].[SpecialUsers]
GO
CREATE TABLE [dbo].[SpecialUsers] (
    [RecID] [numeric](19, 0) IDENTITY (1, 1) NOT NULL ,
    [UserSiteID] [varchar] (3) COLLATE SQL_Latin1_General_CP1_CI_AS NULL,
    [DUZ] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
    [UserName] [varchar] (100) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
    [Site] [varchar] (50) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
    [Reason] [varchar] (200) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
    [ActiveDate] [datetime] NULL ,
    [DeactiveDate] [datetime] NULL
) ON [PRIMARY]
GO

```

## Requests Creation Script

---

```

if exists (select * from dbo.sysobjects where id = object_id(N'[dbo].[Requests]') and
OBJECTPROPERTY(id, N'IsUserTable') = 1)
drop table [dbo].[Requests]
GO
CREATE TABLE [dbo].[Requests] (
    [requestID] [numeric](19, 0) IDENTITY (1, 1) NOT NULL ,
    [userID] [varchar] (3) COLLATE SQL_Latin1_General_CP1_CI_AS NULL ,
    [text] [varchar] (500) COLLATE SQL_Latin1_General_CP1_CI_AS NULL
) ON [PRIMARY]
GO

```

## LogDesc View Creation Script

---

```

CREATE VIEW dbo.LogDesc
AS
SELECT      *
FROM        dbo.Log
ORDER BY id DESC

```